Exhibit 1. OneNASA Technical Design Requirements

General Requirements	
1.1	Shall detail the end-to-end functionality, performance, and availability of the proposed system, including detailing underlying partner or technical dependencies
1.2	Shall detail the load levels (such as number of concurrent users, simultaneous publishers, and concurrent searchers) that are supported by the system and capacity for increased usage
1.3	Shall detail the ability to update the workflows and processes across the system components and sample associated costs
1.4	Shall outline the strategic vision for the future evolution of this service
1.5	Shall facilitate and undergo rigorous usability testing utilizing members of NASA's five audiences
1.6	Shall detail the business case for the incorporation of the specific functionality (as delivered and planned) of the proposed solution
1.7	Shall provide adequate documentation and training necessary to successfully use the portal
1.8	Shall identify all software used in the proposed solution (including its version and source) and detail service-level agreements, upgrade processes, and warranties for integrated software components
1.9	Shall detail the skills required in-house to NASA to meet any of the requirements not met by the proposer
1.10	Shall provide accessibility in conformance with W3C Web Accessibility Initiative[1]
1.11	Shall support major web browsers in common use including but not limited to Internet Explorer (version 4.X and above), Netscape Navigator (4.7 and above), and Opera
1.12	Shall be operable across Windows, Macintosh (9.x and 10.x), and UNIX computers
1.13	Shall comply with governmental mandates regarding use of client-side Java, JavaScript, and cookies
1.14	May provide content based on roles and authentication
1.15	Shall incorporate key aspects of (and note exceptions to) • NPD 2220.5 *Management of NASA Scientific and Technical Information*[2] • NPG 2200.2A *Guidelines for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information*[3] for providing publishing workflow • NPD 2190.1 *NASA Export Control Program*[4]
1.16	Shall provide ongoing support (via e-mail and telephone) during the hours of 6 a.m. EDT to 6 p.m. PDT
1.17	Shall provide 48-hour, advance notification of any planned system outages
1.18	Shall provide a secure, authenticated, Web-based interface to input portal modification and administration direction to the vendor.
1.19	Shall provide a secure, authenticated, Web-based administrator interface for the search function for multiple NASA personnel to add or delete sites and configure query parameters
Indexing Requirements	
2.1	Shall be capable of indexing documents and file types in common use, including but not limited to HTML, Microsoft Office, text, Adobe Acrobat, RTF, and databases such as Access, Oracle, DB2, and Java database connectivity (JDBC) and open database connectivity (ODBC) compliant databases

[1] http://www.w3.org/WAI/
[2] http://nodis3.gsfc.nasa.gov/library/displayDir.cfm?Internal_ID=N_PD_2220_005E_&page_name=main
[3] http://nodis3.gsfc.nasa.gov/library/displayDir.cfm?Internal_ID=N_PG_2200_002A_&page_name=main
[4] http://nodis3.gsfc.nasa.gov/library/displayDir.cfm?Internal_ID=N_PD_2190_0001_&page_name=main

2.2	Shall provide and support sufficient metadata for objects stored within the system to allow indexing and searching based on the Dublin Core standard
2.3	Shall be capable of indexing domain names, meta tags, XML tags, and alt tags
2.4	Shall be cable of caching documents
2.5	Shall be capable of multiple server indexing
2.6	Shall be capable of indexing information on sites protected by SSL
2.7	Shall detect duplicate documents and delete them from the index
2.8	Shall retain stopwords in index
2.9	Shall automatically delete dead links in index
2.10	Shall be capable of scheduling re-indexing in cycles of less than 10-day periods
2.11	Sites can be scheduled for different frequencies of indexing
2.12	Index can accept sites added manually in between regularly scheduled indexing runs
2.13	Shall accept searches while index is being updated without any noticeable disruption in service
2.14	Shall return new information as soon as it has been indexed
2.15	Product shall generate custom directories based on the index
2.16	Index shall be updated incrementally
2.17	Shall integrate with browsable “categories”/taxonomies as specified by editorial staff
2.18	Shall support user-defined taxonomies
2.19	Can generate a note on results page identifying placement of content in taxonomy
2.20	Shall produce a “Best Bets” list at top of results page for quick user navigation
2.21	Shall support semantic indexing
2.22	May be capable of indexing content within frames
2.23	Shall gather content and index from sources including but not limited to Lotus Domino servers, Windows NT file servers, SQL compliant databases, HTTP- and HTTPS-enabled Web servers, FTP-supported web site repositories, NNTP-supported news servers, and Apache, Netscape, and MS-IIS web servers
2.24	Shall gather content and index from sources hosted under at least the following operating systems: Windows, Solaris, Linux, Unix, and HP-UX
Query Requirements	
3.1	Shall permit phrase searches
3.2	Shall permit natural language queries
3.3	Shall permit Boolean searching
3.4	Shall permit parenthetical, wildcard, case sensitive, stemming, and proximity searches
3.5	Shall permit multilingual search capability
3.6	Shall permit field searching within URL, title and metatags
3.7	May permit field searching only within a certain domain
3.8	Shall permit “find similar” or related feature
3.9	Shall permit querying by "last updated" feature
3.10	Shall automatically sort results in order of relevance
3.11	May automatically sort results in chronological order
3.12	Shall allow webmasters to understand ranking algorithm
3.13	Shall show source URL, author, file size, date created, and date modified for all results
3.14	Shall convert non-HTML documents into HTML
3.15	Shall generate a summary of the document for each result
3.16	May generate document summaries “on the fly”
3.17	Shall report number of hits and relevancy for each results listing
3.18	May cluster all hits coming from the same domain on search results listing
3.19	May highlight search terms
3.20	Shall allow removal of vendor logo from the results and query pages
3.21	May output results to a wireless/hand-held device

3.22	Shall permit the use of templates for the query page
3.23	Shall permit customer to host the query page template
3.24	May "remember" a user's past searches without the use of cookies or login
3.25	May support a backend thesaurus that includes NASA acronyms
3.26	Shall return results for common misspellings
Content Creation	
4.1	Shall describe and document the proposed integrated authoring environment to support end-to-end lifecycle management, including content creation, update, modification, deletion, and archive
4.2	Shall support multiple user authoring
4.3	Shall separate content from the presentation
4.4	Shall allow for single sourcing for repurposing of content in multiple uses
4.5	Shall detail metadata capture and management mechanisms for supporting long-term accessibility and search of information
4.6	Shall develop and deploy a sustainable taxonomy and underlying information architecture across NASA's repositories
4.7	Shall document and train NASA personnel in the processes required to maintain and evolve the taxonomy and underlying information architecture
4.8	Shall be able to create multiple cross-links among objects
4.9	Shall allow users to publish without knowledge of HTML or specialized language
4.10	Shall support content in a variety of formats, including (but not limited to) XML, HTML, Microsoft Office, PDF, ODBC databases, comma-delimited formats, image files, and wireless access protocol devices (WAP)
4.11	Shall support the use of multiple languages
4.12	Shall support the creation and display of three-dimensional renderings developed using, for example, computer-aided design (CAD) tools or VRML
4.13	Shall utilize style sheets to control final appearance of information and incorporate corporate branding
4.14	Shall allow specific page layout via non-technical templates
Content Management	
5.1	Shall provide version control and archiving for both objects and sites
5.2	Shall include a customizable, rich workflow capability that allows easy update of CM processes by multiple roles, including creation, deletion, updating roles or steps, and modifying rules within the workflows
5.3	Shall provide integration with existing key NASA systems
5.4	Shall provide listing of off-the-shelf integration with web application servers, transactional applications, back-office systems, legacy data sources, and third-party applications
5.5	Shall provide an audit trail of updates to content
5.6	Shall demonstrate and note adherence to open standards where appropriate
5.7	Shall provide customizable reports for both users and administrators
5.8	Shall provide syndication of web-based content to and from industry affiliates, customers, distributors, and other partners
5.9	Shall include group, role, and/or user-based management and display of data and a simple way for NASA personnel to assign people to new groups and roles
5.10	Shall support the use of electronic signatures and interoperate with existing authorization mechanisms as well as SmartCard access
5.11	Shall provide capability for expiration and archival and retrieval of content consistent with the policies referenced in 1.14 above
5.12	May provide content based upon user's previous visits
5.13	Shall provide the ability to retrieve and update dynamic data on demand to ensure the user's content is current (automatic indexing)

Portal System Performance	
6.1	Shall present the OneNASA portal page in a user's browser window in 8 seconds or less
6.2	Shall work without the use of non-bundled web browser plug-ins, although content provided through a channel may require a plug-in
6.3	Shall provide a browsable directory of NASA web sites tied an underlying information architecture and metadata
6.4	Shall provide a mechanism to gather and respond to feedback and comments
6.5	Shall allow end-users to subscribe to and receive notifications based on event triggers (such as when a data channel receives a new object or a specific document changes within a data channel) or system-level changes
6.6	Shall be capable of incorporating and displaying documents and file types in common use, including but not limited to HTML (4.01 and below), XML, XHTML, plain text, MicroSoft Office applications, PDF, Postscript, STEP-compliant CAD files, JPL, GIF, tiff, and digital video and audio (AVI, MOV, RM, WAV, and AIFF)
System Reporting and Metrics	
7.1	Shall provide a secure, authenticated, Web-based metrics reporting site
7.2	Shall provide portal use metrics on an hourly, daily, weekly, and annual basis
7.3	Shall maintain metrics reports for a period of one year
7.4	Shall provide portal use metrics per channel on a daily, weekly, monthly, and annual basis
7.5	Shall provide a list search terms entered by users, number of times each search term was entered and percentage of the total it represents
7.6	Shall provide the number of distinct queries for a given hour, day, or month, including percentages of the total search queries it represents
7.7	Shall provide metrics in tabular and graphical mode
System Security	
8.1	Shall conform with NASA Procedures and Guidelines, *Security of Information Technology*, NPG 2810 in reference to the portal system and in the handling and protection of Public Access (PUB) Information[5]
8.2	Shall conform with NASA Procedures and Guidelines, *Security of Information Technology*, NPG 2810 in reference to the portal system and in the handling and protection of ***all*** information that may be staged (restricted) within the portal or content management systems prior to approval for public release
8.3	Shall immediately inform NASA IT Security contact and provide details of attempted exploitation, break in, hacking or defacing of system
8.4	Shall provide the NASA IT Security contact periodic updates to the vendor's IT security plan for the system

[5] http://nodis3.gsfc.nasa.gov/library/displayDir.cfm?Internal_ID=N_PD_2810_0001_&page_name=main